

09540659

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* * * * * Welcome to STN International * * * * *

NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2	Sep 29	The Philippines Inventory of Chemicals and Chemical Substances (PICCS) has been added to CHEMLIST
NEWS	3	Oct 27	New Extraction Code PAX now available in Derwent Files
NEWS	4	Oct 27	SET ABBREVIATIONS and SET PLURALS extended in Derwent World Patents Index files
NEWS	5	Oct 27	Patent Assignee Code Dictionary now available in Derwent Patent Files
NEWS	6	Oct 27	Plasdoc Key Serials Dictionary and Echoing added to Derwent Subscriber Files WPIDS and WPIX
NEWS	7	Nov 29	Derwent announces further increase in updates for DWPI
NEWS	8	Dec 5	French Multi-Disciplinary Database PASCAL Now on STN
NEWS	9	Dec 5	Trademarks on STN - New DEMAS and EUMAS Files
NEWS	10	Dec 15	2001 STN Pricing
NEWS	11	Dec 17	Merged CEABA-VTB for chemical engineering and biotechnology
NEWS	12	Dec 17	Corrosion Abstracts on STN
NEWS	13	Dec 17	SYNTHLINE from Prous Science now available on STN
NEWS	14	Dec 17	The CA Lexicon available in the CAPLUS and CA files
NEWS	15	Jan 05	AIDSLINE is being removed from STN
NEWS	16	Jan 29	Webcast on CA LEXICON

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* * * * * STN Columbus * * * * *

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=> file reg

COST IN U.S. DOLLARS

SINCE FILE

ENTRY

TOTAL

SESSION

FULL ESTIMATED COST

0.15

0.15

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STRUCTURE FILE UPDATES: 31 JAN 2001 HIGHEST RN 318947-87-4
DICTIONARY FILE UPDATES: 31 JAN 2001 HIGHEST RN 318947-87-4

TSCA INFORMATION NOW CURRENT THROUGH July 8, 2000

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT
for details.

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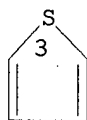
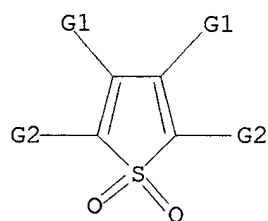
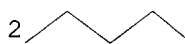
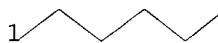
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L1 STRUCTURE UPLOADED

=> d

L1 HAS NO ANSWERS

L1 STR



G1 Me,Ph,H,[@1],[@2]

G2 Ph,[@3]

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 09:55:52 FILE 'REGISTRY'

09540659

SAMPLE SCREEN SEARCH COMPLETED - 68 TO ITERATE

100.0% PROCESSED 68 ITERATIONS 2 ANSWERS
SEARCH TIME: 00.00.03

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 866 TO 1854
PROJECTED ANSWERS: 2 TO 124

L2 2 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 09:56:00 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 1531 TO ITERATE

100.0% PROCESSED 1531 ITERATIONS 35 ANSWERS
SEARCH TIME: 00.00.04

L3 35 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	133.87	134.02

FILE 'CAPLUS' ENTERED AT 09:56:08 ON 01 FEB 2001
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FILE COVERS 1967 - 1 Feb 2001 VOL 134 ISS 6
FILE LAST UPDATED: 31 Jan 2001 (20010131/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

This file supports REGISTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

Now you can extend your author, patent assignee, patent information, and title searches back to 1907. The records from 1907-1966 now have this searchable data in CAOLD. You now have electronic access to all of CA: 1907 to 1966 in CAOLD and 1967 to the present in CAPLUS on STN.

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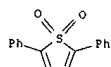
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L4 35 L3

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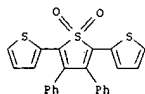
09540659

L4 ANSWER 1 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 2000:730980 CAPLUS
 DOCUMENT NUMBER: 134:63377
 TITLE: Color engineering by modified oligothiophene blends
 AUTHOR(S): Anni, M.; Gigli, G.; Paladini, V.; Cingolani, R.; Barbarella, G.; Favaretto, L.; Sotgiu, G.; Zambianchi, M.
 CORPORATE SOURCE: Dipartimento Ingegneria dell'Innovazione, Istituto Nazionale Fisica della Materia (INFM), Università di Lecce, Italy
 SOURCE: Appl. Phys. Lett. (2000), 77(16), 2458-2460
 CODEN: APPLAB; ISSN: 0003-6951
 PUBLISHER: American Institute of Physics
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Fully tunable light emission is demonstrated with combinations of binary blends of modified oligothiophenes of high efficiency, covering the entire spectrum of colors according to the stds. of the Commission International de l'Eclairage. The emission spectrum of each blend is detd. by the Forster transfer when the energy sepn. between the HOMO-LUMO gap of the constituent mols. is <0.56 eV. For larger energy sepn., the blend emission is just given by the superposition of the emission spectra of the constituent mols.
 IT 51092-02-5 227464-60-0 299196-64-8
 299196-65-9 299196-66-0 299196-67-1
 299196-72-8
 RI: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (color engineering by modified oligothiophene blends studied via their emission spectra)
 RN 51092-02-5 CAPLUS
 CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)

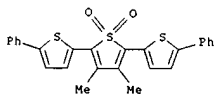


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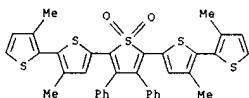
L4 ANSWER 1 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



RN 299196-67-1 CAPLUS
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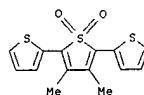


RN 299196-72-8 CAPLUS
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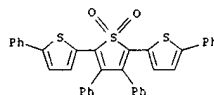


REFERENCE COUNT: 17
 REFERENCE(S):
 CAPLUS
 (2) Barbarella, G; Adv Mater 1999, V11, P1375
 (3) Berggren, M; Nature 1994, V372, P444 CAPLUS
 (4) Burrows, P; Appl Phys 1998, V73, P435 CAPLUS
 (5) Chao, C; Appl Phys Lett 1998, V73, P426 CAPLUS
 (6) Chung, S; Adv Mater 1997, V9, P551 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

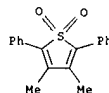
L4 ANSWER 1 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



RN 299196-64-8 CAPLUS
 CN 2,2':5',2''-Terthiophene, 3',4',5,5''-tetrphenyl-, 1',1'-dioxide (9CI) (CA INDEX NAME)



RN 299196-65-9 CAPLUS
 CN Thiophene, 3,4-dimethyl-2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)



RN 299196-66-0 CAPLUS
 CN 2,2':5',2''-Terthiophene, 3',4'-diphenyl-, 1',1'-dioxide (9CI) (CA INDEX NAME)

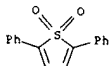
L4 ANSWER 2 OF 35 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2000:705123 CAPLUS
 DOCUMENT NUMBER: 133:288593
 TITLE: Luminescent organic material for light-emitting devices
 INVENTOR(S): Barbarella, Giovanna; Favaretto, Laura; Zambianchi, Massimo; Cingolani, Roberto; Gigli, Giuseppe
 PATENT ASSIGNEE(S): Istituto Nazionale Per La Fisica Della Materia, Italy
 SOURCE: Eur. Pat. Appl., 9 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1041132	A2	20001004	EP 2000-106874	20000330
EP 1041132	A3	20001108		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,

IE, SI, LT, LV, FI, RO
 PRIORITY APPLN. INFO.: IT 1999-BA10 19990401
 AB Luminescent org. materials for light-emitting devices (esp. org. LEDs) are described which comprise .gtoreq.1 thienyl-S,S-dioxide unit. Org. light-emitting devices employing the materials are also described.
 IT 51092-02-5 227464-60-0 227464-61-1
 227464-62-2 240402-78-2 299196-64-8
 299196-65-9 299196-66-0 299196-67-1
 299196-70-6 299196-72-8
 RI: DEV (Device component use); USES (Uses) (luminescent materials contg. thienyl-S,S-dioxide units for light-emitting devices)
 RN 51092-02-5 CAPLUS
 CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)



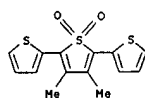
RN 227464-60-0 CAPLUS
 CN 2,2':5',2''-Terthiophene, 3',4'-dimethyl-, 1',1'-dioxide (9CI) (CA INDEX NAME)

Bad date

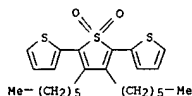
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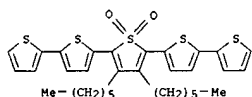
L4 ANSWER 2 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



RN 227464-61-1 CAPLUS
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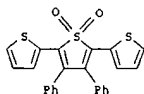


RN 227464-62-2 CAPLUS
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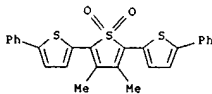


RN 240402-78-2 CAPLUS
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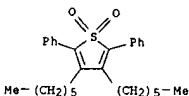
L4 ANSWER 2 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



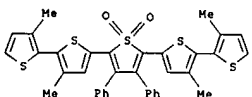
RN 299196-67-1 CAPLUS
CN 2,2':5',2'':5'',2''':5'''-Terthiophene, 3',4'-dimethyl-5,5''-diphenyl-, 1',1'-dioxide (9CI) (CA INDEX NAME)



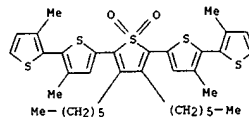
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CN Thiophene, 3,4-dihexyl-2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)



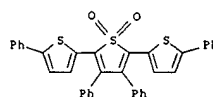
RN 299196-72-8 CAPLUS
CN 2,2':5',2'':5'',2''':5'''-Quinquethiophene, 3,3',3''',4'''-tetramethyl-3'',4'''-diphenyl-, 1'',1'''-dioxide (9CI) (CA INDEX NAME)



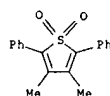
L4 ANSWER 2 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



RN 299196-64-8 CAPLUS
CN 2,2':5',2'':5'',2''':5'''-Terthiophene, 3',4',5,5''-tetraphenyl-, 1',1'-dioxide (9CI) (CA INDEX NAME)



RN 299196-65-9 CAPLUS
CN Thiophene, 3,4-dimethyl-2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)

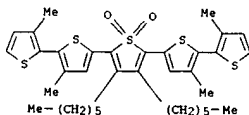


RN 299196-66-0 CAPLUS
CN 2,2':5',2'':5'',2''':5'''-Terthiophene, 3',4'-diphenyl-, 1',1'-dioxide (9CI) (CA INDEX NAME)

L4 ANSWER 3 OF 35 CAPLUS COPYRIGHT 2001 ACS

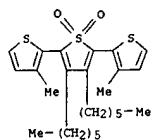
ACCESSION NUMBER: 2000:704789 CAPLUS
DOCUMENT NUMBER: 134:43022
TITLE: New light-emitting functionalized oligothiophenes
AUTHOR(S): Barbarella, G.; Favaretto, L.; Sotgiu, G.; Zambianchi, M.; Antolini, L.; Marzegli, E. A.; Tedesco, E.; Gigli, G.; Cingolani, R.
CORPORATE SOURCE: ICoCEA, Consiglio Nazionale Ricerche, Bologna, 40129, Italy
SOURCE: Synth. Met. (2000), 115(1-3), 47-49
PUBLISHER: CODEN: SYMED2; ISSN: 0379-6779
DOCUMENT TYPE: Elsevier Science S.A.
LANGUAGE: English
AB We present a new class of highly photo and electroluminescent oligomers based on the presence of one inner thienyl-S,S-dioxide unit as the luminophore. The light emission frequency of the new compds., which are characterized by greater electron affinities than the corresponding oligomers bearing an unmodified thienyl ring, was tuned over the entire visible range by changing the nature of the alkyl or aryl groups attached in the .alpha.- and/or in the .beta.-positions of the thienyl-S,S-dioxide moiety. A few aspects of the solid state supramol. organization of the new compds. are reported.

IT 240402-78-2P 312721-49-6P 312721-50-9P
312721-52-1P 312721-53-2P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(characteristics of light-emitting functionalized oligothiophenes)
RN 240402-78-2 CAPLUS
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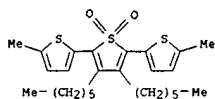


RN 312721-49-6 CAPLUS
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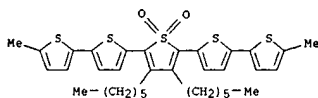
L4 ANSWER 3 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



RN 312721-50-9 CAPLUS
CN 2,2',5',2''-Terthiophene, 3',4'-dihexyl-5,5''-dimethyl-, 1',1'-dioxide
(9CI) (CA INDEX NAME)



RN 312721-52-1 CAPLUS
CN 2,2':5',2'':5''',2''':5''',2''':5''':Quinquethiophene,
3'',4''-dihexyl-5,5''':
dimethyl-, 1'',1''-dioxide (9CI) (CA INDEX NAME)



RN 312721-53-2 CAPLUS
CN INDEX NAME NOT YET ASSIGNED

L4 ANSWER 4 OF 35 CAPLUS COPYRIGHT 2001 ACS

04 ANSWER 4 OF 33 CARLOS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 2000:607695 CAPLUS
 DOCUMENT NUMBER: 133:327124
 TITLE: Molecular Packing and Photoluminescence
 Efficiency in

AUTHOR(S): 000-membered oligothiomphene S,S-dioxides
Antolini, Luciano; Tedesco, Emilio; Barbarella,
Giovanna; Favaretto, Laura; Sotgiu, Giovanna;
Zambianchi, Massimo; Casarini, Daniele; Gigli,
Giuseppe; Cingolani, Roberto

CORPORATE SOURCE: Giuseppe Cingolani, Roberto
Dipartimento di Chimica, Universita' di Modena e
Reggio Emilia, Modena, 41100, Italy
SOURCE: J. Am. Chem. Soc. (2000), 122 (37), 9006-9013
CODEN: JACSAT ISSN: 0002-7863

PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal

LANGUAGE: English
AB The single-crystal x-ray structures of 3 odd-membered thiophene oligomers

bearing 1 central thienyl-S,S-dioxide moiety-trimer, pentamer, and heptamer-are reported. Abs. photoluminescence quantum yields in microcryst. powders are given for all compds. The solid-state photoluminescence efficiencies of the trimer (45%) and the pentamer

(12%) were up to 1 order of magnitude higher than those generally measured

in conventional oligothiophenes, while that of the heptamer amounted to

only

21. These results are accounted for in terms of mol. packing characteristics, which, owing to the competing effects of dipolar

intermol. interactions between the sulfonyl groups and intra- and intermol. C-H...O H bondings and

S.cntdot..cntdot..cntdot.S interactions, change dramatically on changing the oligomer size. While the trimer is highly distorted and

crystallizes in a chiral orthorhombic space group with the mol. long axes marked

tilted with respect to 1 another, the heptamer displays a coplanar conformation with the mols. packing in strictly parallel layers.

Contrary to the solid state, the photoluminescence intensity in soln. increases on

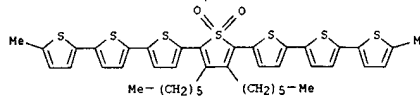
IT 227464-61-1 227464-62-2 250379-97-6

RL: PRP (Properties)
(mol. packing and photoluminescence efficiency in odd-membered oligothiophene dioxides)

RN 227464-61-1 CAPLUS
CN 2,2':5',2''-Terthiophene, 3',4'-dihexyl-, 1',1'-dioxide (9CI) (CA

INDEX
NAME)

L4 ANSWER 3 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)

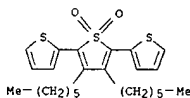


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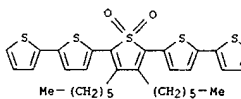
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CAPLUS (3) Burroughes, J; Nature 1990, V347, P539 CAPLUS
(4) Chosrovian, H; Synth Met 1993, V60, P23 CAPLUS
CAPLUS (5) Desiraju, G; Acc Chem Res 1991, V24, P290
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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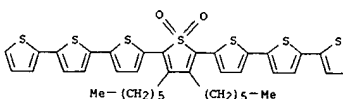
L4 ANSWER 4 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



RN 227464-62-2 CAPLUS
CN 2,2':5,2'':5'',2''':5''',2''''-Quinquethiophene, 3'',4''-dihexyl-,
1'',1''-dioxide (9CI) (CA INDEX NAME)



RN 250379-97-6 CAPIUS
CN 2,2':5',2'':5'',2''':5''',2''':5''',2''':5''',2''':5'''-
Septithiophene, 3''',4'''-dihexyl-, 1''',1'''-dioxide (9CI) (CA INDEX
NAME)

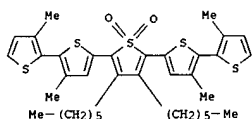


REFERENCE COUNT: 52
REFERENCE(S): (1) Antolini, L; Acta Polym 1998, V49, P248 CAPLUS
(3) Barbarella, G; Adv Mater 1993, V5, P834 CAPLUS
(4) Barbarella, G; Adv Mater 1994, V6, P561 CAPLUS
(5) Barbarella, G; Adv Mater 1996, V8, P69 CAPLUS
(6) Barbarella, G; Adv Mater 1998, V10, P551

CAPLUS

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L4 ANSWER 5 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 2000:402812 CAPLUS
 DOCUMENT NUMBER: 133:184995
 TITLE: High photo and electroluminescence efficiency oligothiophenes
 AUTHOR(S): Gigli, G.; Ani, M.; Barbarella, G.; Favaretto, L.; Cacialli, F.; Cingolani, R.
 CORPORATE SOURCE: Via Arnesano, Dipartimento di Ingegneria dell'Innovazione, Istituto Nazionale di Fisica della
 SOURCE: Materia, Universita di Lecce, Lecce, 73100, Italy
 PHYSICA E (Amsterdam) (2000), 7(3&4), 612-615
 CODEN: PELNFM; ISSN: 1386-9477
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The authors report photo and electroluminescence efficiency of a thiophene oligomer functionalized to enhance its solid-state efficiency. The abs. PL quantum yield is up to 37% for spin-coated thin films of the compd. The material was used as active material in org. light-emitting diodes (LEDs). EL efficiencies up to 0.9 cd/A are demonstrated in LEDs prepd. with a blend in Sn oxide and Ca-Al electrodes.
 IT 240402-78-2
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
 (high photo and electroluminescence efficiency oligothiophenes and LEDs based on them)
 RN 240402-78-2 CAPLUS
 CN 2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene, 3'',4''-dihexyl-, 3,3',3''',4''''-tetramethyl-, 1'',1'''-dioxide (9CI) (CA INDEX NAME)

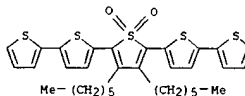


REFERENCE COUNT: 9
 REFERENCE(S): (1) Barbarella, G.; J Org Chem 1998, V63, P1742
 CAPLUS (4) Barta, P.; J Appl Phys 1998, V84, P6279 CAPLUS
 (5) Cacialli, F.; Synth Met 1995, V75, P161 CAPLUS
 (6) Cornil, J.; Chem Phys Lett 1997, V272, P463
 CAPLUS

L4 ANSWER 5 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)
 (7) Gigli, G.; Appl Phys Lett 1998, V73, P2414
 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

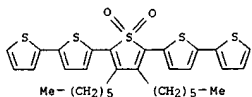
L4 ANSWER 6 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 2000:377681 CAPLUS
 DOCUMENT NUMBER: 133:81297
 TITLE: Light-emitting devices with a photoluminescent quinquethiophene derivative as an emitting material
 AUTHOR(S): Paltori, V.; Cocchi, M.; Di Marco, P.; Giro, G.; Barbarella, G.; Sotgiu, G.
 CORPORATE SOURCE: Istituto FRAE Consiglio Nazionale delle Ricerche, Bologna, 40129, Italy
 SOURCE: Synth. Met. (2000), 111-112, 83-86
 CODEN: SYMEDZ; ISSN: 0379-6779
 PUBLISHER: Elsevier Science S.A.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Elec. and electroluminescence measurements were carried out on single- and double-layer light emitting devices where a functionalized quinquethiophene, having a high photoluminescence quantum yield in its solid state (.apprx.11%), was used as the emitting mol. The thiophene deriv. was used together with N,N'-diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine (TPD), the well-studied hole injecting and transporting mol., and with Alq3 as the electron transporting and emitting material. The deposition techniques for the device construction were both vacuum sublimation of the pure compds. and spinning of the concd. solns. of pure or mixed compds. Electroluminescence spectra show that the thiophene deriv. is the only emitting species when put together with TPD, both in the single- and double-layer devices. Its orange emission is mixed with the green Alq3 emission in the double layer devices where a vacuum-deposited Alq3 layer is in contact with the cathode, the orange/green intensity ratio being dependent on the applied voltage. These light emitting devices were characterized by an extremely low onset voltage (2 V) and a fairly good electroluminescence external quantum efficiency (EQE = 0.7%).
 IT 227464-62-2
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (light-emitting devices with a photoluminescent quinquethiophene deriv. as emitting material)
 RN 227464-62-2 CAPLUS
 CN 2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene, 3'',4''-dihexyl-, 1'',1'''-dioxide (9CI) (CA INDEX NAME)

L4 ANSWER 6 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)
 REFERENCE COUNT: 20
 REFERENCE(S): (1) Barbarella, G.; Adv Mater 1998, V10, P551
 CAPLUS (4) Barta, P.; J Appl Phys 1998, V84, P6279 CAPLUS
 (5) Bassler, H.; Synth Met 1997, V91, P173 CAPLUS
 (6) Burroughes, J.; Nature 1990, V347, P539 CAPLUS
 (9) Geiger, F.; Adv Mater 1993, V5, P922 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT



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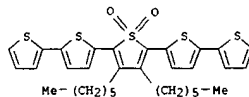
L4 ANSWER 7 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 2000:212146 CAPLUS
 DOCUMENT NUMBER: 132:300277
 TITLE: Polythiophene S,S dioxides: an investigation on electrochemical doping
 AUTHOR(S): Arbizzani, Catia; Mastragostino, Marina; Soavi, Francesca
 CORPORATE SOURCE: Department of Chemistry "G. Ciamician", Bologna, Bologna, I-40126, Italy
 SOURCE: Electrochim. Acta (2000), 45(14), 2273-2278
 CODEN: ELCAAV; ISSN: 0013-4686
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A new strategy for functionalizing oligothiophenes is the transformation of the thieryl sulfurs into the corresponding S,S dioxides, with the effect of lowering the LUMO energy without significantly affecting the HOMO one. From a quinquethiophene S,S dioxide deriv., a polymer (poly(3',4''-dihexyl-2,2':5',2'':5'',2''':5''',2''''-quinquethiophene 1'',1''-dioxide), pQTD0) which can be reversibly n-doped at not very neg. potentials still maintaining the property of being p-doped at moderate potential values was electrosynthesized. There is, however, a great difference in the ability to store charge of the polymer's p- and n-doped forms: a great amt. of injected neg. charge irreversibly modifies the structure of pQTD0.
 IT 227464-62-2P, 3'',4''-dihexyl-2,2':5',2'':5'',2''':5''',2''''-quinquethiophene 1'',1''-dioxide
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (electrochem. polymn. on platinum or tin oxide-coated glass in acetonitrile contg. tetraethylammonium tetrafluoroborate)
 RN 227464-62-2 CAPLUS
 CN 2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene, 3'',4''-dihexyl-1'',1''-dioxide (9CI) (CA INDEX NAME)



IT 227464-66-6P, Poly(3'',4''-dihexyl-2,2':5',2'':5'',2''':5''',2''''-quinquethiophene 1'',1''-dioxide)
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN

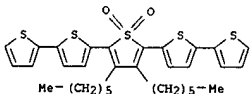
L4 ANSWER 7 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)
 (Synthetic preparation); PREP (Preparation); PROC (Process) (electrochem. prepn. and electrochem. doping)
 RN 227464-66-6 CAPLUS
 CN 2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene, 3'',4''-dihexyl-1'',1''-dioxide, homopolymer (9CI) (CA INDEX NAME)

CH 1
 CRN 227464-62-2
 CMF C32 H36 O2 S5



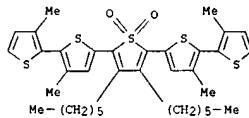
REFERENCE COUNT: 16
 REFERENCE(S):
 (1) Arbizzani, C; Opt Mater 1998, V9, P43 CAPLUS
 (5) Barbarella, G; Adv Mater 1998, V10, P551
 CAPLUS
 (6) Barbarella, G; Chem Mater 1999, V11, P2533
 CAPLUS
 (7) Barbarella, G; J Org Chem 1998, V63, P1742
 CAPLUS
 (8) Barbarella, G; J Org Chem 1998, V63, P5497
 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1999:726386 CAPLUS
 DOCUMENT NUMBER: 132:108768
 TITLE: Modified oligothiophenes with high photo- and electroluminescence efficiencies
 AUTHOR(S): Barbarella, Giovanni; Favaretto, Laura; Sotgiu, Giovanna; Zambianchi, Massimo; Fattori, Valeria; Cocchi, Massimo; Cacialli, Franco; Gigli, Giuseppe; Cingolani, Roberto
 CORPORATE SOURCE: ICCEA, Consiglio Nazionale Ricerche, Bologna, I-40129, Italy
 SOURCE: Adv. Mater. (Weinheim, Ger.) (1999), 11(16), 1375-1379
 CODEN: ADVMEW; ISSN: 0935-9648
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB To investigate the possibility of engineering the mol. structure of oligothiophenes in such a way as to enhance their light emission properties, 4 thiophene pentamers (partial alkylated and S-oxidized) were synthesized and subjected to fluorescence and electroluminescence exams. The solid-state photoluminescence quantum yield was increased exhibiting highest value ever measured for thiophene-based materials for 3,3',4'',3''''-tetramethyl-3'',4''-dihexyl-2,2':5',2'':5'',2''':5''',2''''-quinquethiophene 1'',1''-dioxide. Light emitting diodes were fabricated and examd. by coating indium tin oxide glass slides with those thiophene pentamers having the best quantum yield.
 IT 227464-62-2
 RL: DEV (Device component use); PRP (Properties); USES (Uses) (photo- and electroluminescence of modified thiophene pentamers)
 RN 227464-62-2 CAPLUS
 CN 2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene, 3'',4''-dihexyl-1'',1''-dioxide (9CI) (CA INDEX NAME)



IT 240402-78-2P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (photo- and electroluminescence of modified thiophene pentamers)
 RN 240402-78-2 CAPLUS
 CN 2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene, 3'',4''-dihexyl-3,3',3''',4''''-tetramethyl-1'',1''-dioxide (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)

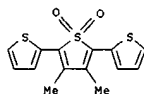


REFERENCE COUNT: 36
 REFERENCE(S):
 (1) Adachi, C; Appl Phys Lett 1989, V55, P1489
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 (2) Anderson, J; J Am Chem Soc 1998, V120, P9646
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 (3) Barbarella, G; Adv Mater 1998, V10, P551
 CAPLUS
 (4) Barbarella, G; Chem Mater 1998, V10, P3683
 CAPLUS
 (5) Barbarella, G; J Org Chem 1998, V63, P5497
 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(May 99)

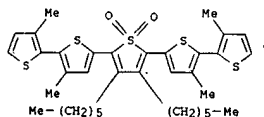
✓ L4 ANSWER 10 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1999:459131 CAPLUS
 DOCUMENT NUMBER: 131:185325
 TITLE: New n-dopable thiophene-based polymers
 AUTHOR(S): Bongini, A.; Barbarella, G.; Favaretto, L.; Sotgiu, G.; Zambianchi, M.; Mastragostino, M.; Arbizzani, C.; Soavi, F.
 CORPORATE SOURCE: Dipartimento di Chimica "G. Ciamician", Bologna, 40126, Italy
 SOURCE: Synth. Met. (1999), 101(1-3), 13-14
 CODEN: SYMEDZ; ISSN: 0379-6779
 PUBLISHER: Elsevier Science S.A.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB New conjugated polymers contg. variable amts. of thienyl and thienyl-S,S-dioxide units have been prepd. by chem. or electrochem. polymn. of the appropriate substrates. The presence of the thienyl-S-dioxide units leads to the decrease of the LUMO energies with respect to those of the 'all thienyl' counterparts. Electrochem. and spectroelectrochem. data of n-doping of these materials are reported.
 IT 227464-64-4P 227464-65-5P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (n-dopable thiophene-based polymers)
 RN 227464-64-4 CAPLUS
 CN 2,2':5',2''-Terthiophene, 3',4'-dimethyl-, 1'',1'-dioxide, homopolymer (9CI) (CA INDEX NAME)
 CH 1
 CRN 227464-60-0
 CNF C14 H12 O2 S3



RN 227464-65-5 CAPLUS
 CN 2,2':5',2''-Terthiophene, 3',4'-dihexyl-, 1'',1'-dioxide, homopolymer (9CI) (CA INDEX NAME)

(Jul 26, 1999)

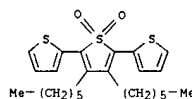
✓ L4 ANSWER 11 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1999:443949 CAPLUS
 DOCUMENT NUMBER: 131:191586
 TITLE: High-efficiency oligothiophene-based light-emitting diodes
 AUTHOR(S): Gigli, G.; Barbarella, G.; Favaretto, L.; Cacialli, F.; Cingolani, R.
 CORPORATE SOURCE: Istituto Nazionale di Fisica della Materia, Dipartimento di Ingegneria dell'Innovazione, Università di Lecce, Lecce, 73100, Italy
 SOURCE: Appl. Phys. Lett. (1999), 75(4), 439-441
 CODEN: APPLAB; ISSN: 0003-6951
 PUBLISHER: American Institute of Physics
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB We report studies of the photoluminescence (PL) and electroluminescence (EL) of a thiophene oligomer for which we have devised a variety of substitutions aimed at enhancing the solid-state efficiency. We find that the abs. PL quantum efficiency in the solid state is up 37% for both powders or spin-coated thin films of the compd. The material thus becomes competitive for applications in org. light-emitting diodes (LEDs). EL efficiencies up to 1.2 cd/A are demonstrated in LEDs prepd. with indium-tin-oxide and Ca-Al electrodes.
 IT 240402-78-2
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses) (light-emitting diode using)
 RN 240402-78-2 CAPLUS
 CN 2,2':5',2''':5'',2''':5''',2''''-Quinquethiophene, 3'',4''-dihexyl-, 3,3',3''',4''''-tetramethyl-, 1'',1''-dioxide (9CI) (CA INDEX NAME)



IT 227464-62-2
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process) (photoluminescence efficiency)
 RN 227464-62-2 CAPLUS
 CN 2,2':5',2''':5'',2''':5''',2''''-Quinquethiophene, 3'',4''-dihexyl-, 1'',1''-dioxide (9CI) (CA INDEX NAME)

L4 ANSWER 10 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)
 CH 1

CRN 227464-61-1
 CNF C24 H32 O2 S3

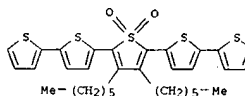


REFERENCE COUNT: 10
 REFERENCE(S):
 Science (2) Arbizzani, C; Current Trends in Polymer 1997, V2, P217 CAPLUS
 (3) Arbizzani, C; Optical Materials 1998, V9, P43 CAPLUS
 (4) Barbarella, G; Adv Mater 1998, V10, P551
 (5) Barbarella, G; J Org Chem 1998, V63, P1742
 (8) de Leeuw, D; Synth Met 1997, V87, P53 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L4 ANSWER 11 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



REFERENCE COUNT: 15
 REFERENCE(S):
 CAPLUS (1) Barbarella, G; Adv Mater 1998, V10, P551
 (2) Barbarella, G; J Org Chem 1998, V63, P1742
 (4) Barta, P; J Appl Phys 1998, V84, P6279 CAPLUS
 (5) Beljonne, D; J Chem Phys 1995, V102, P2042
 (6) Cacialli, F; Synth Met 1995, V75, P161 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS

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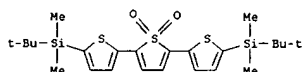
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	CAPLUS
CAPLUS	(4) Barbarella, G; Adv Mater 1998, V10, P551
	(5) Barbarella, G; J Org Chem 1998, V63, P1742
CAPLUS	(6) Barbarella, G; J Org Chem 1998, V63, P5497
CAPLUS	
	ALL CITATIONS AVAILABLE IN THE REFORMAT

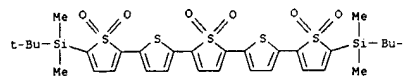
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L4 ANSWER 13 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1998:496393 CAPLUS
 DOCUMENT NUMBER: 129:189193
 TITLE: Oligothiophene S,S-Dioxides. Synthesis and Electronic Properties in Relation to the Parent
 AUTHOR(S): Barbarella, G.; Favaretto, L.; Sotgiu, G.; Zambianchi, M.; Antolini, L.; Pudova, O.; Bongini, A.
 CORPORATE SOURCE: I.Co.C.E.A., Bologna, 40129, Italy
 SOURCE: J. Org. Chem. (1998), 63(16), 5497-5506
 CODEN: JOCEAH; ISSN: 0022-3263
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 129:189193
 AB Oligothiophene S,S-dioxides from dimers to pentamers were obtained in good yields by reaction of mono- and dibrominated thiophene S,S-dioxides with the appropriate thienyl stannanes in the presence of Pd(AsPh₃)₄ generated in situ. The reaction rate with brominated thiophene S,S-dioxides is greatly accelerated compared to that employing thienyl bromides to obtain the parent oligothiophenes. HF/6-31G*ab initio calcs. on 2,2'-bithiophene and the corresponding mono- and bis-S,S-dioxides show that the functionalization of the thienyl S to the S,S-dioxide does not affect the .pi.,.pi.* nature of the frontier orbitals, decreases the energy of the LUMO much more than that of the HOMO, increases the degree of planarity of the mol. skeleton, and leads to higher syn anti rotation barriers about the C-C bond.
 IT 207844-35-7P, 5,5'-Bis(dimethyl-tert-butylsilyl)-2,2':5',2'':5'',2''':5''',2''''-quinquethiophene 1,1,1'',1''',1''',1''''-hexaoxide 211737-35-8P, 5,5'-Dihexyl-2,2':5',2'':5'',2''':5''',2''''-quinquethiophene 1,1,1'',1''',1''',1''''-hexaoxide 211737-42-7P, 5,5'-Bis(dimethyl-tert-butylsilyl)-2,2':5',2'':5'',2''':5''',2''''-quinquethiophene 1'',1'''-Dioxide 211737-44-9P, 2,2':5',2'':5'',2''':5''',2''''-terthiophene 1'',1'''-Dioxide 211737-45-0P, 5,5'-Bis(dimethyl-tert-butylsilyl)-2,2':5',2''-terthiophene 1'',1'''-Dioxide
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (oligothiophene S,S-dioxide synthesis and electronic properties in relation to the parent oligothiophenes)
 RN 207844-35-7 CAPLUS
 CN Silane, (1,1,1'',1''',1''',1''''-hexaoxido[2,2':5',2'':5'',2''':5''',2''''-]

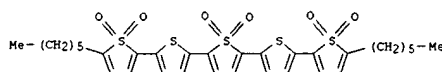
L4 ANSWER 13 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



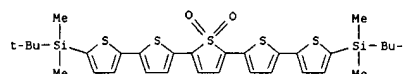
L4 ANSWER 13 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)
 quinquethiophene]-5,5'-diyl]bis[(1,1-dimethylethyl)dimethyl- (9CI)
 (CA INDEX NAME)



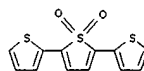
RN 211737-35-8 CAPLUS
 CN Silane, (1,1,1'',1''',1''',1''''-hexaoxido[2,2':5',2'':5'',2''':5''',2''''-]



RN 211737-42-7 CAPLUS
 CN Silane, (1'',1'''-dioxido[2,2':5',2'':5'',2''':5''',2''''-quinquethiophene]-5,5'-diyl]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



RN 211737-44-9 CAPLUS
 CN 2,2':5',2'':5'',2''':5''',2''''-Terthiophene, 1'',1'''-dioxide (9CI) (CA INDEX NAME)



RN 211737-45-0 CAPLUS
 CN Silane, (1'',1'''-dioxido[2,2':5',2'':5'',2''':5''',2''''-terthiophene]-5',5'-diyl]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

L4 ANSWER 14 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)

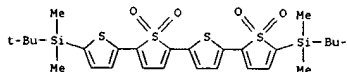
L4 ANSWER 14 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1998:32355 CAPLUS
 DOCUMENT NUMBER: 129:28521
 TITLE: From easily oxidized to easily reduced thiophene-based materials

AUTHOR(S): Barbarella, Giovanna; Favaretto, Laura; Massimo; Pudova, Olga; Arbizzani, Catia; Bongini, Alessandro; Mastragostino, Marina
 CORPORATE SOURCE: I. Co. C. E. A., Area Ricerca, CNR, Bologna, I-40129, Italy
 SOURCE: Adv. Mater. (Weinheim, Ger.) (1998), 10(7), 551-554
 CODEN: ADVMEW; ISSN: 0935-9648
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English

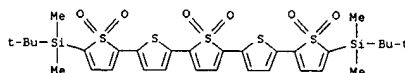
AB Oligothiophenes were functionalized by transforming thienyl sulfurs into the corresponding S,S-dioxides using m-chloroperoxybenzoic acid with the parent oligothiophene or by building-block assembly via the Stille reaction. Electrochem. and spectral measurements indicate smaller energy gaps and higher electron affinities compared with the precursor.

IT 207844-33-5 207844-35-7
 RL: PRP (Properties) (prepn. and electrochem. properties of oligothiophene and oligothiophene dioxides)

RN 207844-33-5 CAPLUS
 CN Silane, (1,1,1'',1''',1''',1''''-tetraoxido[2,2':5',2'':5'',2''':5''',2''''-quaterthiophene]-5,5'-diyl]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



RN 207844-35-7 CAPLUS
 CN Silane, (1,1,1'',1''',1''',1''''-hexaoxido[2,2':5',2'':5'',2''':5''',2''''-quinquethiophene]-5,5'-diyl]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

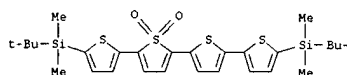


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L4 ANSWER 14 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)

L4 ANSWER 15 OF 35 CAPLUS COPYRIGHT 2001 ACS

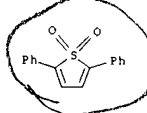
ACCESSION NUMBER: 1998:143664 CAPLUS
 DOCUMENT NUMBER: 128:127883
 TITLE: Oligothiophene-S,S-dioxides: a New Class of Thiophene-based Materials
 AUTHOR(S): Barbarella, Giovanna; Pudova, Olga; Arbizzani, Catia;
 CORPORATE SOURCE: Mastragostino, Marina; Bongini, Alessandro I.Co.C.E.A., Bologna, 40129, Italy
 SOURCE: J. Org. Chem. (1998), 63(5), 1742-1745
 CODEN: JOCEAH; ISSN: 0022-3263
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 128:127883
 AB .alpha.,.beta.-Bissilylated oligothiophenes may be selectively oxidized at the thieryl sulfurs by m-chloroperbenzoic acid to afford stable S,S-dioxides having alternate arom. and nonarom. moieties. These compds. are characterized by enhanced electron delocalization, smaller optical gap and greater electron affinity than the 'fully arom.' precursors.
 IT 201605-00-7P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (prepn. and electron affinity of oligothiophene dioxides)
 RN 201605-00-7 CAPLUS
 CN Silane, (1',1'-dioxido[2,2':5',2'':5'',2''':-quaterthiophene]-5,5'''-diyl)bis[(1,1-dimethylethyl)dimethyl-, 1',1'-dioxide (9CI) (CA INDEX NAME)

Not

L4 ANSWER 16 OF 35 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1997:751973 CAPLUS
 DOCUMENT NUMBER: 128:74982
 TITLE: Thiophene 1-oxides. V. comparison of the crystal structures and thiophene ring aromaticity of 2,5-diphenylthiophene, its sulfoxide and sulfone
 AUTHOR(S): Pouzet, Pascale; Erdelmeier, Irene; Ginderow, Daria;
 CORPORATE SOURCE: Mornon, Jean-Paul; Dansette, Patrick M.; Mansuy, Daniel
 Pharmacologiques et Laboratoire de Chimie et Biochimie
 Descartes, Toxicologiques (URA 400), Universite Rene
 Paris, 75270, Fr.
 SOURCE: J. Heterocycl. Chem. (1997), 34(5), 1567-1574
 CODEN: JHTCAD; ISSN: 0362-172X
 PUBLISHER: HeteroCorporation
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The detailed prepn. of 2,5-diphenylthiophene 1-oxide (2) is reported as well as the comparative study of the crystal structures of 2,5-diphenylthiophene, 1, its sulfoxide 2 and sulfone 3 obtained by X-ray diffraction. This work represents the first exptl. study of a complete heterocyclic series, including a thiophene deriv., and the corresponding sulfoxide and sulfone. On the basis of the geometrical parameters, the first unequivocal exptl. parameters obtained for a thiophene 1-oxide deriv., we have also examd. the evolution of the arom. character of the thiophene ring when oxidizing the sulfur atom to the sulfoxide and the sulfone. Paulini's bond orders and Julg and Francois's aromaticity indexes have also been calcd. for the three compds. and compared to those previously calcd. for related thiophene derivs. by semi-empirical or ab initio methods. All the data examd. showed that, in spite of its non planarity, the thiophene ring of 2,5-diphenylthiophene 1-oxide 2 could still exhibit some delocalization of its .pi. electrons indicating a certain degree of aromaticity lower than in thiophene 1 but higher than in the sulfone 3.
 IT 51092-02-5P, 2,5-Diphenylthiophene dioxides
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (comparison of the crystal structures and thiophene ring aromaticity of 2,5-diphenylthiophene, its sulfoxide and sulfone)
 RN 51092-02-5 CAPLUS
 CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)

L4 ANSWER 16 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)

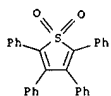


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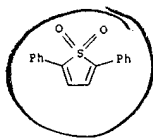
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L4 ANSWER 17 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1991:608210 CAPLUS
 DOCUMENT NUMBER: 115:208210
 TITLE: Cobalt thiophene dioxide complexes
 AUTHOR(S): Albrecht, Reinhard; Weiss, Erwin
 CORPORATE SOURCE: Inst. Anorg. Angew. Chem., Univ. Hamburg, Hamburg,
 W-2000/13, Fed. Rep. Ger.
 SOURCE: J. Organomet. Chem. (1991), 413(1-3), 355-77
 CODEN: JORCAI; ISSN: 0022-328X
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 115:208210
 AB Thiophene 1,1-dioxide (TDO) is thermally unstable and can be
 stabilized by
 coordination to metals in low oxidn. states as hitherto shown in the
 case
 of some iron carbonyl compds. The examples of Co complexes such as
 CoCp(eta.4-TDO) (I, Cp = eta.5-cyclopentadienyl) and their derivs.:
 CoCp(eta.4-2,5-diphenylthiophene dioxide), CoCp(eta.4-3,4-
 diphenylthiophene dioxide), CoCp(eta.4-tetraphenylthiophene dioxide)
 (II), CoCp(eta.4-2,5-di-tert-butylthiophene dioxide), and
 CoCp(eta.4-2,4-di-tert-butylthiophene dioxide) were synthesized.
 Also
 complexes with the eta.3-ligand 2-hydrothiophene dioxide (TDO-H),
 contg.
 a cyclic allyl system have been obtained: Co(CO)3(TDO-H) (III). One
 or
 two CO groups of III were substituted by a variety of
 organophosphines and
 phosphites including the chelating diphosphines DPPM and DPPE. All
 compds. were characterized by 1H and 13C NMR methods. In addn. the
 crystal structures of I, II and Co(CO)3(eta.2-DPPE) (TDO-H) were detd.
 IT 136686-12-9P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and crystal structure of)
 RN 136686-12-9 CAPLUS
 CN Cobalt, (eta.5-2,4-cyclopentadien-1-yl)[(2,3,4,5-eta.)-2,3,4,5-
 tetraphenylthiophene 1,1-dioxide]- (9CI) (CA INDEX NAME)

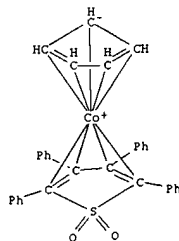
L4 ANSWER 17 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)
 CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX
 NAME)



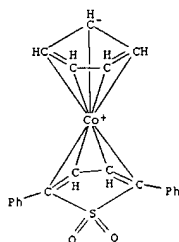
RN 51092-02-5 CAPLUS
 CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)



L4 ANSWER 17 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)

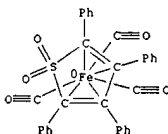


IT 136686-10-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 136686-10-7 CAPLUS
 CN Cobalt, (eta.5-2,4-cyclopentadien-1-yl)[(2,3,4,5-eta.)-2,5-
 diphenylthiophene 1,1-dioxide]- (9CI) (CA INDEX NAME)



IT 1059-75-2, Tetraphenylthiophene dioxide 51092-02-5,
 2,5-Diphenylthiophene dioxide
 RL: RCT (Reactant)
 (reaction of, with ethylene cobalt complex)
 RN 1059-75-2 CAPLUS

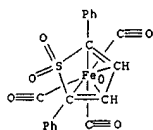
L4 ANSWER 18 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1991:102314 CAPLUS
 DOCUMENT NUMBER: 114:102314
 TITLE: Thiophene dioxide and its iron carbonyl complexes
 AUTHOR(S): Albrecht, Reinhard; Weiss, Erwin
 CORPORATE SOURCE: Inst. Anorgan. Angew. Chem., Univ. Hamburg,
 Hamburg,
 W-2000/13, Fed. Rep. Ger.
 SOURCE: J. Organomet. Chem. (1990), 399(1-2), 163-88
 CODEN: JORCAI; ISSN: 0022-328X
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 114:102314
 AB Thiophene-1,1-dioxide (TDO), which is stable in soln. only for a short
 period, and its (stable) phenyl-substituted derivs. are eta.4-donor
 ligands and form complexes with the Fe(CO)3 moiety. In these compds.
 the
 CO groups may be replaced stepwise by phosphines (PMe3, PPh3, PBu3) or
 phosphites [P(OMe)3, P(OPh)3]. Total substitution is possible with
 Fe(CO)3(eta.4-TDO). Electronic effects due to substitution can be
 followed by IR and NMR-spectroscopy. A novel eta.2-thiophene dioxide
 complex, Fe(CO)2[P(OMe)3]2(eta.2-TDO), and a compd. with a
 .sigma.-bonded
 3-sulfolene-3-yl ligand, FeBr(CO)2[P(OMe)3]2(.sigma.-C4H5SO2), have
 also
 been obtained. These compds. and the following three have been
 characterized by x-ray diffraction: Fe(CO)3(eta.4-TDO),
 Fe(CO)3(eta.4-3,4-diphenylthiophene dioxide) and 3a,7a-
 dihydrobenzo[b]thiophene-1,1-dioxide formed by dimerization of
 thiophene
 dioxide and subsequent SO2-elimination.
 IT 37048-10-5P 132080-68-3P 132080-91-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 37048-10-5 CAPLUS
 CN Iron, tricarbonyl[(2,3,4,5-eta.)-tetraphenylthiophene 1,1-dioxide]-
 (9CI)
 (CA INDEX NAME)



RN 132080-68-3 CAPLUS
 CN Iron, tricarbonyl[(2,3,4,5-eta.)-2,5-diphenylthiophene 1,1-dioxide]-
 (9CI) (CA INDEX NAME)

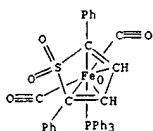
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L4 ANSWER 18 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



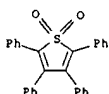
Nope

RN 132080-91-2 CAPLUS
 CN Iron, dicarbonyl[(2,3,4,5-tetra-2,5-diphenylthiophene
 1,1-dioxide)(triphenylphosphine)- (9CI) (CA INDEX NAME)



Nope

IT 1059-75-2 51092-02-5
 RL: RCT (Reactant)
 (reaction of, with iron carbonyl complexes)
 RN 1059-75-2 CAPLUS
 CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



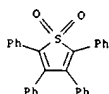
Nope

RN 51092-02-5 CAPLUS
 CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)

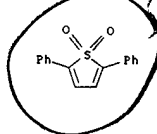
L4 ANSWER 19 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1991:101781 CAPLUS
 DOCUMENT NUMBER: 114:101781
 TITLE: An extremely efficient synthesis of thiophene
 1,1-dioxides. Oxidation of thiophene derivatives

with dimethylthiodioxirane
 AUTHOR(S): Miyahara, Yuji; Inazu, Takahiko
 CORPORATE SOURCE: Fac. Sci., Kyushu Univ., Fukuoka, 812, Japan
 SOURCE: Tetrahedron Lett. (1990), 31(41), 5955-8
 CODEN: TELEAY; ISSN: 0040-4039
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 114:101781
 AB Dimethylthiodioxirane was found to oxidize electron-rich thiophene
 derivs., including sterically hindered thiophenophanes, to the corresponding
 thiophene 1,1-dioxides in excellent yields. Electron-withdrawing
 groups on a thiophene ring substantially retarded the oxidn., but
 dimethylthiodioxirane remained superior to other reagents. Thus,
 1,5-dibenzylthiophene afforded 93% the 1,1-dioxide compared with a 50%
 yield using H2O2-HOAc.

IT 1059-75-2p, 2,3,4,5-Tetraphenylthiophene 1,1-dioxide
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, by oxidn. of thiophene by dimethylthiodioxirane)
 RN 1059-75-2 CAPLUS
 CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L4 ANSWER 18 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)

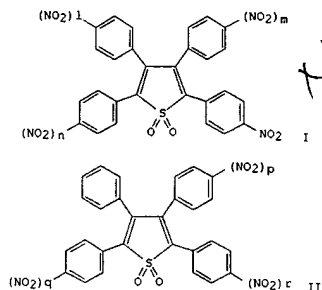


L4 ANSWER 20 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1989:632560 CAPLUS
 DOCUMENT NUMBER: 111:232560
 TITLE: Preparation of nitro-substituted
 tetraphenylthiophene

1,1-dioxides
 INVENTOR(S): Yamada, Yasuyuki; Tanaka, Eiji; Ito, Naoto;
 Nishizawa,
 PATENT ASSIGNEE(S): Isao Yamaguchi, Teruhiko
 Mitsui Toatsu Chemicals, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKOXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01146878	A2	19890608	JP 1987-305939	19871204

OTHER SOURCE(S): MARPAT 111:232560
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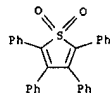


Nope

AB The title compds. I (l, m, n = 0, 1; l.toreq. m .ltoreq.n), useful as
 intermediates for azo dyes and functional polymers, were prepd. by
 treating thiophenes II (p, q, r = 0, 1; p.toreq. q .ltoreq.r; p + q
 + r < 1 + m + n + 1) by mixed acids in halo-contg. hydrocarbons. Thus, an
 aq. H2SO4-HNO3 mixt. was added dropwise to a CH2ClCH2Cl soln. of II (p =
 q = r = 0) and the whole stirred at room temp. to give 60% I (l = m = n =
 1).

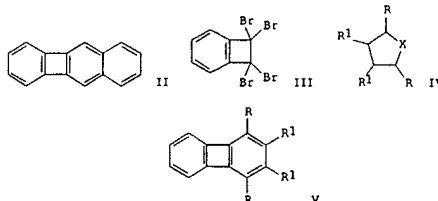
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L4 ANSWER 20 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)
 IT 1059-75-2
 RL: RCT (Reactant)
 (nitration of)
 RN 1059-75-2 CAPLUS
 CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



Nope

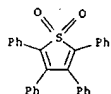
L4 ANSWER 21 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1987:138057 CAPLUS
 DOCUMENT NUMBER: 106:138057
 TITLE: Polycyclic biphenylenes. Part 6. Direct routes to benzo[b]biphenylene and related systems via cycloaddition reactions
 AUTHOR(S): John Barton, John W. Shepherd, Michael K. Willis, R. Sch. Chem., Univ. Bristol, Bristol, BS8 1TS, UK
 CORPORATE SOURCE: J. Chem. Soc., Perkin Trans. 1 (1986), (6), 967-71
 SOURCE: CODEN: JCPRB4; ISSN: 0300-922X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 106:138057
 GI



Nope

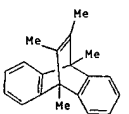
AB The simultaneous generation of 1,2-dibromobenzocyclobutene (I) and 5,6-bis(bromomethylene)cyclohexa-1,3-diene gave benzo[b]biphenylene (II) directly. Annelated derivs. of this ring system, including naphtho[2,3-b]-, biphenyleno[2,3-a]-, and biphenyleno[2,3-b]biphenylenes were obtained by variations of this procedure. Cycloaddn. reactions of I with cyclopenta-2,4-dienones and with thiophene 1,1-dioxides, gave simple biphenylenes. Thus, bromobenzocyclobutene III and dienone IV (R = R1 = Ph, X = CO) when treated with Zn gave 55% biphenylene V. The reaction of III and IV (R = H, R1 = Me, X = SO2) with NaI gave 24% V.
 IT 1059-75-2, Tetraphenylthiophene dioxide

L4 ANSWER 21 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)
 RL: RCT (Reactant)
 (cyclocondensation of, with dibromodihydrobenzocyclobutene)
 RN 1059-75-2 CAPLUS
 CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



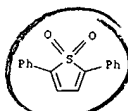
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L4 ANSWER 22 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1987:18053 CAPLUS
 DOCUMENT NUMBER: 106:18053
 TITLE: Preparation of naphthalene derivatives by reaction of benzyne with thiophene 1,1-dioxides
 AUTHOR(S): Nakayama, Juzo; Kuroda, Masami; Hoshino, Masamatsu
 CORPORATE SOURCE: Fac. Sci., Saitama Univ., Urawa, 338, Japan
 SOURCE: Heterocycles (1986), 24(5), 1233-6
 CODEN: HETCYM; ISSN: 0385-5414
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 106:18053
 GI



Nope

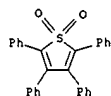
AB The reaction of benzyne with thiophene 1,1-dioxides gave Diels-Alder cycloadducts, which lose SO2 spontaneously to give naphthalene derivs. in moderate yields. Further reaction of benzyne with naphthalenes gave dibenzobarralenes in a few cases. Thus, tetrachlorothiophene S,S-dioxide, 2-HO2CC6H4N2+Cl-, and propylene oxide in ClCH2CH2Cl was refluxed to give 72% 1,2,3,4-tetrachloronaphthalene. Using tetramethylthiophene S,S-dioxide, 23% tetramethyldibenzobarralene I was obtained.
 IT 51092-02-5, 2,5-Diphenylthiophene S,S-dioxide
 RL: RCT (Reactant)
 (Diels-Alder reaction of, with benzyne)
 RN 51092-02-5 CAPLUS
 CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)



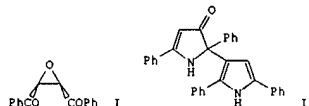
IT 1059-75-2P, Tetraphenylthiophene dioxide
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and Diels-Alder reaction of, with benzyne)
 RN 1059-75-2 CAPLUS

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L4 ANSWER 22 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)
CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

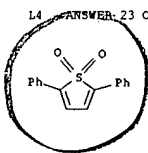


L4 ANSWER 23 OF 35 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1986:572207 CAPLUS
DOCUMENT NUMBER: 105:172207
TITLE: Oxidation of furan, pyrrole, thiophene, benzo[b]furan, and benzo[b]thiophene with oxodiperoxomolybdenum(VI), MoO5.HMPA
AUTHOR(S): Chien, Chun Sheng; Kawasaki, Tomomi; Sakamoto, Masanori
CORPORATE SOURCE: Meiji Coll. Pharm., Tokyo, 154, Japan
SOURCE: Chem. Pharm. Bull. (1985), 33(11), 5071-4
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 105:172207
GI

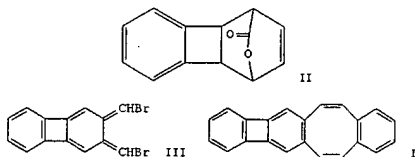


AB The oxidn. of 2,5-diphenylfuran with (hexamethylphosphoramide) oxodiperoxomolybdenum(VI) (MoO5.HMPA) gave cis-PhCOCH:CHCOPh and its cis-epoxide I.
I. 2,3-Diphenylpyrrole was similarly treated with MoO5.HMPA to give the dimeric product II, together with I and trans-PhCOCH:CHCOPh. In the case of 2,5-diphenylthiophene, the oxidn. with MoO5.HMPA occurred at S to give the thiophene 1,1-dioxide. The oxidn. of benzo[b]furan and benzo[b]thiophene with MoO5.HMPA is also described.
IT 51092-02-5P
RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of)
RN 51092-02-5 CAPLUS
CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)

L4 ANSWER 23 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



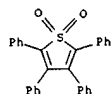
L4 ANSWER 24 OF 35 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1985:614950 CAPLUS
DOCUMENT NUMBER: 103:214950
TITLE: Benzocyclooctenes. Part 4. Benzo- and dibenzo[a,e]cyclooctene synthesis via benzocyclobutene
AUTHOR(S): Barton, John W.; Lee, D. Victor; Shepherd, Michael K.
CORPORATE SOURCE: Sch. Chem., Univ. Bristol, Bristol, BS8 1TS, UK
SOURCE: J. Chem. Soc., Perkin Trans. 1 (1985), (7), 1407-11
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 103:214950
GI



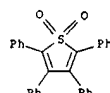
AB Benzocyclobutene (I), generated by debromination of 1,2-dibromo-1,2-dihydrobenzocyclobutene with Zn, underwent cycloaddn. with 2H-2-pyranone to give 44% cycloadduct II, which underwent elimination of CO2 and valence isomerization in refluxing DMF to give benzocyclooctene quant.
Similar reactions of I with alkyl or aryl derivs. of 2H-2-pyranone or 1,1-thiophene dioxide gave benzocyclooctenes directly at <100.degree.. The corresponding adducts of I and cyclopenta-2,4-dienones were generally more thermally stable, but underwent decarbonylation at higher temps. Dibenzo[a,e]cyclooctenes were obtained directly by reactions of I and halo-1,2-quinodimethanes. E.g., cycloaddn. of I and the quinodimethane III in THF at room temp. with water-bath cooling gave 35% dibenzocyclooctene IV.
IT 1059-75-2
RL: RCT (Reactant) (cycloaddn. reaction of, with benzocyclobutene)
RN 1059-75-2 CAPLUS
CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

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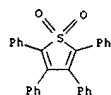
L4 ANSWER 24 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



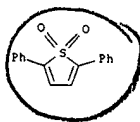
L4 ANSWER 25 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1979:476551 CAPLUS
 DOCUMENT NUMBER: 91:76551
 TITLE: Study of petroleum sulfones by polarographic and EPR methods
 AUTHOR(S): Iglamova, N. A.; Mazitova, F. N.; Vafina, A. A.; Il'yasov, A. V.
 CORPORATE SOURCE: Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
 SOURCE: Neftekhimiya (1979), 19(2), 264-8
 CODEN: NEFTAH; ISSN: 0028-2421
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB Petroleum sulfones obtained by oxidn. of diesel fuels from various petroleum were studied by polarog. and EPR. The compn. and structure of the sulfones are given.
 IT 1059-75-2
 RL: USES (Uses)
 (ESR and polarog. of)
 RN 1059-75-2 CAPLUS
 CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



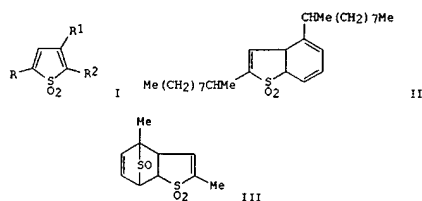
L4 ANSWER 26 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1978:50575 CAPLUS
 DOCUMENT NUMBER: 88:50575
 TITLE: Flash vapor-phase pyrolysis of thiophene
 1,1-dioxides
 AUTHOR(S): Van Tilborg, W. J. M.; Plomp, R.
 CORPORATE SOURCE: K./Shell-Lab., Amsterdam, Neth.
 SOURCE: Recl. Trav. Chim. Pays-Bas (1977), 96(11), 282-6
 CODEN: RTCPA3
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Flash pyrolysis at 900°C. 800.degree./10-2 mm Hg of 2,5- or 2,4-dialkyl-, 2,5-diphenyl- and dibenzothiophene 1,1-dioxides gave the corresponding furans. Thiophenes are obtained as co-products if stabilized cyclobutadiene-type intermediates can occur, esp. at low temps. (<700.degree.C) and/or higher pressure (10-1 mm Hg). Both tetraphenylthiophene 1,1-dioxide and tetraphenylcyclopentadienone gave PhC.tpbond.CPh as the main product. Benzothiete is obtained from the pyrolysis of benzothiophene 1,1-dioxide. A general reaction scheme involving a common intermediate is proposed.
 IT 1059-75-2 51092-02-5
 RL: RCT (Reactant)
 (pyrolysis of)
 RN 1059-75-2 CAPLUS
 CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



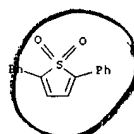
RN 51092-02-5 CAPLUS
 CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)



L4 ANSWER 27 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1977:171167 CAPLUS
 DOCUMENT NUMBER: 86:171167
 TITLE: Improved method for the synthesis of dialkyl-substituted thiophene 1,1-dioxides
 AUTHOR(S): Van Tilborg, W. J. M.
 CORPORATE SOURCE: K./Shell-Lab., Amsterdam, Neth.
 SOURCE: Synth. Commun. (1976), 6(8), 583-9
 CODEN: SYNCAV
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI

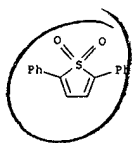


AB The thiophene dioxides I (R = R2 = Me, CMe3, Ph, R1 = H; R = R1 = CMe3, R2 = H) were prep'd. by oxidizing the thiophenes with 3-ClC6H4CO2OH, freezing out the 3-ClC6H4CO2H and purifying by passing over Amberlyst A21.
 Oxidn. of 2-(1-methylnonyl)thiophene gave the dihydrobenzothiophene II and 2-methylthiophene gave III.
 IT 51092-02-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 51092-02-5 CAPLUS
 CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)

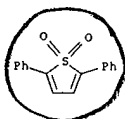


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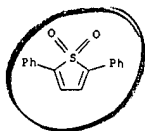
L4 ANSWER 29 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1975:513732 CAPLUS
 DOCUMENT NUMBER: 83:113732
 TITLE: Novel method for the synthesis of specifically substituted cycloheptatrienes
 AUTHOR(S): Van Tilborg, W. J. M.; Smael, Mrs. P.; Visser, J. P.;
 CORPORATE SOURCE: Kouwenhoven, Mrs. C. G.; Reinhoudt, D. N.; K./Shell-Lab., Amsterdam (Shell Res. B. V.), Amsterdam, Neth.
 SOURCE: Recl. Trav. Chim. Pays-Bas (1975), 94(4), 85-8
 CODEN: RTCPA3
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI For diagram(s), see printed CA Issue.
 AB A novel method was developed for the synthesis of substituted cycloheptatrienes I (R1, R2 = H, Me, tert-Bu, Ph; R3 = H, tert-Bu; R4, R6 = H, Me; R5 = H, involving the cycloaddn. of substituted cyclopropenes to substituted thiophene 1,1-dioxides followed by expulsion of SO2 from the cycloadduct. The scope and limitations of the reaction have been investigated and its mechanism is discussed. Attempts to extend this reaction principle to the synthesis of 1-heterocycloheptatrienes were unsuccessful.
 IT 51092-02-5
 RL: RCT (Reactant)
 (cycloaddn. reaction with cyclopropenes)
 RN 51092-02-5 CAPLUS
 CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)



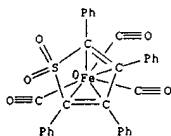
L4 ANSWER 29 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1975:408616 CAPLUS
 DOCUMENT NUMBER: 83:8616
 TITLE: Electron impact-induced fragmentation of thiirene and thiophene dioxides
 AUTHOR(S): Vouros, Paul
 CORPORATE SOURCE: Inst. Lipid Res., Baylor Coll. Med., Houston, Tex., USA
 SOURCE: J. Heterocycl. Chem. (1975), 12(1), 21-5
 CODEN: JHTCAD
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI For diagram(s), see printed CA Issue.
 AB The electron impact mass spectra of I (R = R1 = Ph, Me, p-FC6H4; R = Ph, R1 = Me), II, III (R = Ph, Me), and IV are examd. using both low and high resolu. mass spectrometry. The predominant fragmentation process in the spectra of the thiirene compds. is the elimination of the hetero (SO or SO2) function and formation of a substituted acetylene ion. The 5-membered ring thiophene dioxides exhibit mainly elimination of SO rather than SO2. The mechanisms leading to the formation of the principal ions are discussed on the basis of metastable transitions.
 IT 51092-02-5
 RL: PRP (Properties)
 (mass spectrum of)
 RN 51092-02-5 CAPLUS
 CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)



L4 ANSWER 30 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1974:27008 CAPLUS
 DOCUMENT NUMBER: 80:27008
 TITLE: Photoreactions of 3a,7a-dihydro-3,3a,5,6-tetraphenylinden-1-one
 AUTHOR(S): Jones, David W.
 CORPORATE SOURCE: Dep. Org. Chem., Univ. Leeds, Leeds, Engl.
 SOURCE: J. Chem. Soc., Perkin Trans. 1 (1973), (18), 1951-3
 CODEN: JCPRB4
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI For diagram(s), see printed CA Issue.
 AB Irradn. of the title compd. (I; R = R2 = R3 = H, R1 = R4 = R5 = Ph) gave mainly I (R = R2 = R5 = Ph, R1 = R3 = R4 = H) and also I (R = R2 = R3 = Ph, R1 = R4 = R5 = H) and the tricyclo compd. (II).
 IT 51092-02-5
 RL: RCT (Reactant)
 (reaction with phenylmaleimide)
 RN 51092-02-5 CAPLUS
 CN Thiophene, 2,5-diphenyl-, 1,1-dioxide (9CI) (CA INDEX NAME)

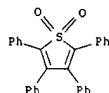


L4 ANSWER 31 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1972:488631 CAPLUS
 DOCUMENT NUMBER: 77:88631
 TITLE: Photochemical preparation of thiophene 1,1-dioxide-tricarbonyliron complexes
 AUTHOR(S): Chow, Y. L.; Fossey, Jacques; Perry, R. A.
 CORPORATE SOURCE: Dep. Chem., Simon Fraser Univ., Burnaby, B. C., Can.
 SOURCE: J. Chem. Soc., Chem. Commun. (1972), (9), 501-2
 CODEN: JCCCAT
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Irradn. of thiophene 1,1-dioxide (I), I 2,5-di-Me deriv., or I tetra-Ph deriv. with excess Fe(CO)5 in C6H6 gave 60, 90, and 50%, resp., of the title compds. I was prepd. in C6H6 by heterogeneous dehydrobromination of 3,4-dibromotetrahydrothiophene 1,1-dioxide at 0.degree..
 IT 37048-10-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 37048-10-5 CAPLUS
 CN Iron, tricarbonyl[(2,3,4,5-tetra-Ph)-tetraphenylthiophene 1,1-dioxide]- (9CI) (CA INDEX NAME)

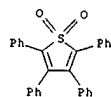


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L4 ANSWER 32 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1970:487293 CAPLUS
 DOCUMENT NUMBER: 73:87293
 TITLE: Dipole moments of phenyl-, benzo-, and thianaphtho-derivatives of thiophene, 1,4-dithiadene, and thianthrene and their sulfones
 AUTHOR(S): Gruntfest, M. G.; Kolodyazhnyi, Yu. V.; Udre, V.; Voronkov, M. G.; Osipov, O. A.
 CORPORATE SOURCE: Rostov-na-Donu Gos. Univ., Rostov-on-Don, USSR
 SOURCE: Khim. Geterotsikl. Soedin. (1970), (4), 448-51
 CODEN: KGSSAQ
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 GI For diagram(s), see printed CA Issue.
 AB The dipole moments of the following I were measured (R, R1, R2, R3, and dipole moment in .mu.D given): H, H, H, H, 0.54; H, H, H, Ph, 0.81; H, Ph, H, H, 0.80; H, Ph, H, Ph, 0.89; H, Ph, Ph, H, 0.93; Ph, H, H, Ph, 0.92; H, H, Ph, Ph, 0.86; Ph, Me, H, H, 1.10; H, Me, H, Ph, 0.88; H, H, Me, 0.67; H, Me, H, H, 0.83; Me, H, H, Me, 0.51; Ph, H, Ph, Ph, 1.03; Ph, Ph, Ph, (II), 1.04; 2,3-benzo, H, H, 0.82; 2,3-benzo, H, Ph, 0.87; 2,3-benzo, Ph, Ph, 0.95; (R1 =) 2,3-benzo, -, (R2R3 =) 4,5-benzo (III), -, 0.88. Dipole moments of other compds. are (compds., and dipole moment in .mu.D given): IV, 0; V, 1.11; VI, 0.37; VII, 0.38; VIII, 1.63; sulfone of II, 4.33 (in dioxane), 4.50 (in CHCl3); sulfone of III, 4.99; monosulfone of IV, 3.99; disulfone of VI, 0.30; disulfone of VII, 0.37.
 The influence of the phenyl substituents and steric relations on dipole moments are discussed.
 IT 1059-75-2
 RL: PRP (Properties) (dipole moment of)
 RN 1059-75-2 CAPLUS
 CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

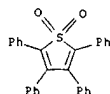


L4 ANSWER 33 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1969:71951 CAPLUS
 DOCUMENT NUMBER: 70:71951
 TITLE: Tetrahedral C4R4+. in the mass spectral fragmentation of thionessal dioxide
 AUTHOR(S): Bursley, Maurice M.; Elwood, Thomas A.; Rogerson, Peter
 F.
 CORPORATE SOURCE: Univ. of North Carolina, Chapel Hill, N. C., USA
 SOURCE: Tetrahedron (1969), 25(3), 605-11
 CODEN: TETRA8
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB On electron impact, tetraphenylthiophene 1,1-dioxide (thionessal dioxide) loses SO2 to give (C6H5)4C4+.cntdot.. The p-fluoro labeling technique has been used to det. whether this ion is acyclic or whether it attains sq. or tetrahedral symmetry. The energies for the loss of SO2 is sufficiently similar to those for the loss of CO from tetracyclone that the C4R4+.cntdot. ion attains very nearly the same, i.e. distorted tetrahedral, symmetry.
 IT 1059-75-2
 RL: PRP (Properties) (mass spectrum of)
 RN 1059-75-2 CAPLUS
 CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L4 ANSWER 32 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)

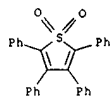
L4 ANSWER 34 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1968:463347 CAPLUS
 DOCUMENT NUMBER: 69:63347
 TITLE: Luminescence of some sulfur-containing heterocycles and their sulfones
 AUTHOR(S): Vinetskaya, Yu. M.; Voronkov, M. G.; Krasovitskii, B.
 M.; Udre, V.
 CORPORATE SOURCE: Vses. Nauch.-Issled. Inst. Monokrist., Kharkov, USSR
 SOURCE: Khim. Geterotsikl. Soedin. (1968), (1), 180-1
 CODEN: KGSSAQ
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB Intensity of luminescence of the S-heterocycles was much lower than that of the sulfones. In cryst. form, the sulfones also have stronger luminescence. The spectra of toluene soln. are given.
 IT 1059-75-2
 RL: PRP (Properties) (luminescence of)
 RN 1059-75-2 CAPLUS
 CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



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L4 ANSWER 35 OF 35 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1967:65344 CAPLUS
 DOCUMENT NUMBER: 66:65344
 TITLE: Interaction of sulfur with organic compounds. X.
 Action of sulfur on benzyl bromide and its
 derivatives
 AUTHOR(S): Voronkov, M. G.; Udre, V.
 CORPORATE SOURCE: Inst. Org. Syn., Riga, USSR
 SOURCE: Khim. Geterotsikl. Soedin. (1966), (4), 527-32
 CODEN: KGSSAQ
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 GI For diagram(s), see printed CA Issue.
 AB cf. ibid. (4), 522-6; CA 64, 11148h. PhCH₂Br (0.1 mole) heated 4
 hrs. at
 220-30.degree. with an equimol. amt. S gave 42% 2-phenylthianaphthene
 (I),
 m. 174-5.degree. (iso-PrOH) [sulfone (38.2%) m. 176-7.degree.]; and
 8.1%
 tetraphenylthiophene, m. 185.degree. (EtOH-benzene) [sulfone (64.9%)
 m.
 275-7.degree.]. Treatment of 0.2 mole p-ClC₆H₄CH₂Br with 0.15 mole S
 in 3
 cc. mesitylene at 180-90.degree. during 2.5 hrs. yielded 28.2%
 2-(4-chlorophenyl)-6-chlorothianaphthene II (X = Cl, Y = p-Cl), m.
 192-3.degree. (hexane-benzene); sulfone (36.8%) m. 242.degree..
 Similarly, p-BrC₆H₄CH₂Br gave 21% II (X = Br, Y = p-Br), m.
 212.degree..
 (AcOH) [sulfone (32.1%) m. 265.degree.] (decompn.). Heating 0.2 mole
 o-ClC₆H₄CH₂Br with an equi. mol. amt. S during 5 hrs. at
 205-20.degree.
 gave 9.1% thianaphtheno[3,2-b]thianaphthene (III), m. 216.degree.
 (hexane-benzene); [sulfone (56.7%) m. 270.degree. (decompn.)].
 Alternatively, III was obtained in 8.6% yield by heating 2 hrs. an
 equimol. mixt. of benzylidene bromide and S in mesitylene at
 170-85.degree.. Heating a mixt. of 0.2 mole p-ClC₆H₄CH₂Br and 0.2
 mole S
 6 hrs. at 190-210.degree. gave 23.7% 4,4'-dichlorostilbene, m.
 174-5.degree. (EtOH). Analogous 3 hrs. treatment of m-chloro deriv.
 of I
 gave 6.4% 3,3'-dichlorostilbene, m. 86-7.degree. (EtOH). Heating
 p-MeC₆H₄CH₂Br and o-MeC₆H₄CH₂Br with S in mesitylene at
 190-220.degree.
 during 4 hrs. gave 11.5% 4,4'-dimethylstilbene, m. 175-6.degree.
 (EtOH)
 and 10.5% 2,2'-dimethylstilbene, m. 80-1.degree. (aq. EtOH), resp.
 IT 1059-75-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 1059-75-2 CAPLUS
 CN Thiophene, tetraphenyl-, 1,1-dioxide (6CI, 7CI, 8CI, 9CI) (CA INDEX
 NAME)

L4 ANSWER 35 OF 35 CAPLUS COPYRIGHT 2001 ACS (Continued)



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=>

---Logging off of STN---

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Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	147.61	281.63

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=> file scisearch

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.15	0.15

FILE 'SCISEARCH' ENTERED AT 17:28:14 ON 01 FEB 2001

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FILE COVERS 1974 TO 26 Jan 2001 (20010126/ED)

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107 BARBARELLA?/AU
142 FAVARETTO?/AU
746 ADV
26 ADVS
758 ADV.

(ADV OR ADVS)

0 MATER./JT

(MATER/JT)

0 ADV.(L)MATER./JT

L1 0 BARBARELLA?/AU AND FAVARETTO?/AU AND ADV.(L)MATER./JT

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COCCHI?/AU AND CACIALLI?/AU

107 BARBARELLA?/AU
142 FAVARETTO?/AU
0 STOGIU?/AU
213 MASSIMO?/AU
772 COCCHI?/AU
85 CACIALLI?/AU

L2 0 BARBARELLA?/AU AND FAVARETTO?/AU AND STOGIU?/AU AND
MASSIMO?/AU

AND COCCHI?/AU AND CACIALLI?/AU

=> S BARBARELLA?/AU AND FAVARETTO?/AU AND SOTGIU?/AU AND MASSIMO?/AU AND
COCCHI?/AU AND CACIALLI?/AU

107 BARBARELLA?/AU

142 FAVARETTO?/AU
219 SOTGIU?/AU
213 MASSIMO?/AU
772 COCCHI?/AU
85 CACIALLI?/AU
L3 0 BARBARELLA?/AU AND FAVARETTO?/AU AND SOTGIU?/AU AND
MASSIMO?/AU
AND COCCHI?/AU AND CACIALLI?/AU

=> S ADV(L)MAT/JU

'JU' IS NOT A VALID FIELD CODE

746 ADV
26 ADVS
758 ADV
(ADV OR ADVS)
0 MAT/JU
L4 0 ADV(L)MAT/JU

=>

=> S ADVANCE? (L) MAT/JT

137604 ADVANCE?
0 MAT/JT
(MAT/JT)
L5 0 ADVANCE? (L) MAT/JT

=> S GIGLI?/AU AND BARBARELLA?/AU AND FAVARETTO?/AU AND CINGOLANI?/AU

1650 GIGLI?/AU
107 BARBARELLA?/AU
142 FAVARETTO?/AU
784 CINGOLANI?/AU
L6 8 GIGLI?/AU AND BARBARELLA?/AU AND FAVARETTO?/AU AND
CINGOLANI?/AU

=> D 16 1-8

L6 ANSWER 1 OF 8 SCISEARCH COPYRIGHT 2001 ISI (R)
AN 2000:933642 SCISEARCH
GA The Genuine Article (R) Number: 380HZ
TI Tuning solid-state photoluminescence frequencies and efficiencies of
oligomers containing one central thiophene-S,S-dioxide unit
AU **Barbarella G (Reprint); Favaretto L; Sotgiu G;**
Zambianchi M; Bongini A; Arbizzani C; Mastragostino M; Anni M; **Gigli**
G; Cingolani R
CS ICOCEA, CNR, VIA GOBETTI 101, I-40129 BOLOGNA, ITALY (Reprint); UNIV
BOLOGNA, DIPARTIMENTO CHIM G CIAMICIAN, I-40126 BOLOGNA, ITALY; UNIV
BOLOGNA, IST SCI CHIM, I-40127 BOLOGNA, ITALY; UNIV LECCE, DIPARTIMENTO
INGN INNOVAZIONE, IST NAZL FIS MAT, I-73100 LECCE, ITALY
CYA ITALY
SO JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, (6 DEC 2000) Vol. 122, No. 48,
pp. 11971-11978.
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036.
ISSN: 0002-7863.
DT Article; Journal
FS PHYS; LIFE
LA English
REC Reference Count: 45
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L6 ANSWER 2 OF 8 SCISEARCH COPYRIGHT 2001 ISI (R)
AN 2000:807290 SCISEARCH
GA The Genuine Article (R) Number: 366FP
TI New light-emitting functionalized oligothiophenes

AU **Barbarella G (Reprint); Favaretto L; Sotgiu G;**
Zambianchi M; Antolini L; Marseglia E A; Tedesco E; **Gigli G;**
Cingolani R

CS CNR, ICOCEA, VIA GOBETTI 101, I-40129 BOLOGNA, ITALY (Reprint); UNIV
MODENA, DIPARTIMENTO CHIM, I-41100 MODENA, ITALY; UNIV CAMBRIDGE,
CAVENDISH LAB, CAMBRIDGE CB3 0HE, ENGLAND; UNIV LECCE, DIPARTIMENTO SCI
MAT, IST NAZL FIS MAT, I-73100 LECCE, ITALY

CYA ITALY; ENGLAND

SO SYNTHETIC METALS, (1 NOV 2000) Vol. 115, No. 1-3, pp. 47-49.
Publisher: ELSEVIER SCIENCE SA, PO BOX 564, 1001 LAUSANNE, SWITZERLAND.
ISSN: 0379-6779.

DT Article; Journal

FS PHYS

LA English

REC Reference Count: 18
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L6 ANSWER 3 OF 8 SCISEARCH COPYRIGHT 2001 ISI (R)

AN 2000:776239 SCISEARCH

GA The Genuine Article (R) Number: 362HK

TI Color engineering by modified oligothiophene blends

AU Anni M (Reprint); **Gigli G;** Paladini V; **Cingolani R;**
Barbarella G; Favaretto L; Sotgiu G; Zambianchi M

CS UNIV LECCE, DIPARTIMENTO INGN INNOVAZ, IST NAZL FIS MAT, I-73100 LECCE,
ITALY (Reprint); CNR, DIPARTIMENTO INGN INNOVAZ, AREA RIC, I-40126
BOLOGNA, ITALY

CYA ITALY

SO APPLIED PHYSICS LETTERS, (16 OCT 2000) Vol. 77, No. 16, pp. 2458-2460.
Publisher: AMER INST PHYSICS, 2 HUNTINGTON QUADRANGLE, STE 1N01,
MELVILLE,
NY 11747-4501.
ISSN: 0003-6951.

DT Article; Journal

FS PHYS

LA English

REC Reference Count: 17
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L6 ANSWER 4 OF 8 SCISEARCH COPYRIGHT 2001 ISI (R)

AN 2000:733392 SCISEARCH

GA The Genuine Article (R) Number: 356QK

TI Molecular packing and photoluminescence efficiency in odd-membered
oligothiophene S,S-dioxides

AU Antolini L; Tedesco E; **Barbarella G (Reprint); Favaretto**
L; Sotgiu G; Zambianchi M; Casarini D; **Gigli G;**
Cingolani R

CS I CO CEA, CONSIGLIO NAZL RIC, VIA GOBETTI 101, I-40129 BOLOGNA, ITALY
(Reprint); I CO CEA, CONSIGLIO NAZL RIC, I-40129 BOLOGNA, ITALY; UNIV
MODENA & REGGIO EMILIA, DIPARTIMENTO CHIM, I-41100 MODENA, ITALY; UNIV
BIRMINGHAM, SCH CHEM, BIRMINGHAM B15 2TT, W MIDLANDS, ENGLAND; UNIV
BASILICATA, DIPARTIMENTO CHIM, I-80100 NAPLES, ITALY; UNIV LECCE,
DIPARTIMENTO INGN INNOVAZ, IST NAZL FIS MAT, I-73100 LECCE, ITALY

CYA ITALY; ENGLAND

SO JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, (20 SEP 2000) Vol. 122, No. 37,
pp. 9006-9013.
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036.
ISSN: 0002-7863.

DT Article; Journal

FS PHYS; LIFE

LA English

REC Reference Count: 51
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L6 ANSWER 5 OF 8 SCISEARCH COPYRIGHT 2001 ISI (R)

AN 2000:424205 SCISEARCH

GA The Genuine Article (R) Number: 319TH

TI High photo and electroluminescence efficiency oligothiophenes

AU **Gigli G (Reprint); Ani M; Barbarella G; Favaretto L; Cacialli F; Cingolani R**
 CS UNIV LECCE, DIPARTIMENTO INGN INNOVAZ, IST NAZL FIS MAT, VIA ARNESANO, I-73100 LECCE, ITALY (Reprint); CNR, ICOCEA, AREA RIC, I-40129 BOLOGNA, ITALY; UNIV CAMBRIDGE, CAVENDISH LAB, CAMBRIDGE CB3 0HE, ENGLAND
 CYA ITALY; ENGLAND
 SO PHYSICA E, (MAY 2000) Vol. 7, No. 3-4, pp. 612-615.
 Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.
 ISSN: 1386-9477.
 DT Article; Journal
 LA English
 REC Reference Count: 9
 ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L6 ANSWER 6 OF 8 SCISEARCH COPYRIGHT 2001 ISI (R)
 AN 2000:227992 SCISEARCH
 GA The Genuine Article (R) Number: 294ZT
 TI Surface and bulk phenomena in conjugated polymers devices
 AU Cacialli F (Reprint); Kim J S; Brown T M; Morgado J; Granstrom M; Friend R
 H; **Gigli G; Cingolani R; Favaretto L; Barbarella G**; Daik R; Feast W J
 CS UNIV CAMBRIDGE, CAVENDISH LAB, MADINGLEY RD, CAMBRIDGE CB3 0HE, ENGLAND (Reprint); UNIV LECCE, DIPARTIMENTO INGN INNOVAZIONE, I-73100 LECCE, ITALY; CNR, AREA RIC, ICOCEA, I-40129 BOLOGNA, ITALY; UNIV DURHAM, IRC POLYMER SCI & TECHNOL, DURHAM DH1 3LE, ENGLAND
 CYA ENGLAND; ITALY
 SO SYNTHETIC METALS, (1 MAR 2000) Vol. 109, No. 1-3, pp. 7-11.
 Publisher: ELSEVIER SCIENCE SA, PO BOX 564, 1001 LAUSANNE, SWITZERLAND.
 ISSN: 0379-6779.
 DT Article; Journal
 FS PHYS
 LA English
 REC Reference Count: 14
 ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L6 ANSWER 7 OF 8 SCISEARCH COPYRIGHT 2001 ISI (R)
 AN 1999:894663 SCISEARCH
 GA The Genuine Article (R) Number: 255UF
 TI Modified oligothiophenes with high photo - and electroluminescence efficiencies
 AU **Barbarella G (Reprint); Favaretto L; Sotgiu G; Zambianchi M; Fattori V; Cocchi M; Cacialli F; Gigli G; Cingolani R**
 CS ICOCEA, CONSIGLIO NAZL RIC, VIA GOBETTI 101, I-40129 BOLOGNA, ITALY (Reprint); FRAE, CONSIGLIO NAZL RIC, I-40129 BOLOGNA, ITALY; UNIV CAMBRIDGE, CAVENDISH LAB, CAMBRIDGE CB3 0HE, ENGLAND; UNIV LECCE, DIPARTIMENTO INGN INNOVAZ, IST NAZL FIS MAT, I-73100 LECCE, ITALY
 CYA ITALY; ENGLAND
 SO ADVANCED MATERIALS, (10 NOV 1999) Vol. 11, No. 16, pp. 1375-1379.
 Publisher: WILEY-V C H VERLAG GMBH, MUHLENSTRASSE 33-34, D-13187 BERLIN, GERMANY.
 ISSN: 0935-9648.
 DT Article; Journal
 FS PHYS; ENGI
 LA English
 REC Reference Count: 26

L6 ANSWER 8 OF 8 SCISEARCH COPYRIGHT 2001 ISI (R)
 AN 1999:574917 SCISEARCH
 GA The Genuine Article (R) Number: 218UK
 TI High-efficiency oligothiophene-based light-emitting diodes
 AU **Gigli G (Reprint); Barbarella G; Favaretto L; Cacialli F; Cingolani R**
 CS UNIV LECCE, IST NAZL FIS MAT, DIPARTIMENTO INGN INNOVAZ, I-73100 LECCE, ITALY (Reprint); CNR, AREA RIC, ICOCEA, I-40129 BOLOGNA, ITALY; UNIV

^ CAMBRIDGE, CAVENDISH LAB, CAMBRIDGE CB3 0HE, ENGLAND
CYA ITALY; ENGLAND
SO APPLIED PHYSICS LETTERS, (26 JUL 1999) Vol. 75, No. 4, pp. 439-441.
Publisher: AMER INST PHYSICS, CIRCULATION FULFILLMENT DIV, 500 SUNNYSIDE
BLVD, WOODBURY, NY 11797-2999.
ISSN: 0003-6951.
DT Article; Journal
FS PHYS
LA English
REC Reference Count: 15
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS